This article was downloaded by: [80.216.89.146] On: 20 July 2011, At: 06:45 Publisher: Routledge Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



International Journal of Forensic Mental Health Publication details, including instructions for authors and subscription information: http://www.tandfonline.com/loi/ufmh20

Psychopathy as a Risk Factor for Violent Recidivism: Investigating the Psychopathy Checklist Screening Version (PCL:SV) and the Comprehensive Assessment of Psychopathic Personality (CAPP) in a Forensic Psychiatric Setting

Liselotte Pedersen $^{\rm a}$ , Camilla Kunz $^{\rm b}$ , Kirsten Rasmussen $^{\rm c}$  & Peter Elsass $^{\rm d}$ 

<sup>a</sup> Department of Forensic Psychiatry, Mental Health Centre Sct. Hans, Copenhagen University Hospital, Denmark

<sup>b</sup> PsykologCompagniet, Copenhagen, Denmark

<sup>c</sup> Department of Psychology, Norwegian University of Science and Technology, Norway
<sup>d</sup> Department of Psychology, Centre for Humanistic Health Science, Copenhagen University, Denmark

Available online: 09 Dec 2010

To cite this article: Liselotte Pedersen, Camilla Kunz, Kirsten Rasmussen & Peter Elsass (2010): Psychopathy as a Risk Factor for Violent Recidivism: Investigating the Psychopathy Checklist Screening Version (PCL:SV) and the Comprehensive Assessment of Psychopathic Personality (CAPP) in a Forensic Psychiatric Setting, International Journal of Forensic Mental Health, 9:4, 308-315

To link to this article: <u>http://dx.doi.org/10.1080/14999013.2010.526681</u>

# PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.tandfonline.com/page/terms-and-conditions

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan, sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.



# Psychopathy as a Risk Factor for Violent Recidivism: Investigating the Psychopathy Checklist Screening Version (PCL:SV) and the Comprehensive Assessment of Psychopathic Personality (CAPP) in a Forensic Psychiatric Setting

Liselotte Pedersen

Department of Forensic Psychiatry, Mental Health Centre Sct. Hans, Copenhagen University Hospital, Denmark

Camilla Kunz

PsykologCompagniet, Copenhagen, Denmark

# Kirsten Rasmussen

Department of Psychology, Norwegian University of Science and Technology, Norway

# Peter Elsass

Department of Psychology, Centre for Humanistic Health Science, Copenhagen University, Denmark

A robust relationship has been established between psychopathy and violence, and psychopathy is considered essential in the process of violence risk assessment. This study presents data on a patient sample from a forensic psychiatric unit in Denmark. All patients were assessed for psychopathy using the Psychopathy Checklist Screening Version (PCL:SV) and the Comprehensive Assessment of Psychopathic Personality (CAPP). After a follow-up period of 5.7 years, recidivism outcomes were obtained from the Danish National Crime Register. Both psychopathy measures were related to a more severe and versatile criminal career as well as to violent recidivism. Overall, the predictive accuracy of violent recidivism of the two measures was good, and no significant difference was found in terms of predictability. The newly developed CAPP could be a promising clinical risk management tool in terms of its comprehensiveness. Its validity needs to be further explored, but at least its ability to predict violence similar to the PCL:SV is supported by the present study.

Keywords: psychopathy, PCL:SV, CAPP, violence risk

The construct of psychopathy is of great importance in forensic settings in relation to assessment, treatment, and management. A robust relationship has been established between psychopathy and violence (Hemphill, Hare, & Wong, 1998; Porter & Porter, 2007), and in the process of violence risk assessment psychopathy is considered an essential concept. Abundant research over the last decades has demonstrated the importance of psychopathy as one of the strongest single risk factors for antisocial and violent behaviors (Hart, 1998; Hare, 1999; 2003).

Psychopathy is a severe form of personality disorder usually defined by a range of affective (e.g., lack of empathy and callousness), interpersonal (e.g., grandiosity and manipulative) and behavioral traits (e.g., irresponsibility,

Address correspondence to Liselotte Pedersen, Department of Forensic Psychiatry, Mental Health Centre Sct. Hans, Copenhagen University Hospital, Boserupvej 2, DK-4000 Roskilde, Denmark. E-mail: lp@psykologzonen.dk.

impulsivity, and risk-taking). As a construct psychopathy has a long clinical history, however, in more modern times the description provided by Harvey Cleckley (1941) has been of particular influence. Following Cleckley, in 1980 Robert Hare developed the Psychopathy Checklist and later a revised version (PCL-R; Hare, 1991; 2003) for assessing psychopathy in adult forensic populations. Furthermore, a screening version of the PCL-R has been developed (PCL:SV; Hart, Cox, & Hare, 1995) for assessing psychopathy in both civil and forensic populations. There is good evidence that the PCL-R and the PCL:SV are measuring the same psychological construct in a robust manner (Cooke, Michie, Hart, & Hare, 1999; Guy & Douglas, 2006). For more than two decades the PCL scales have been the most influential measurements of psychopathy in both research studies and clinical settings. Consistently, measures of psychopathy by the PCL scales have shown to predict a variety of adverse outcomes including antisocial and violent behavior (Strand, Belfrage, Fransson, & Levander, 1999; Hare, Clark, Grann, & Thornton, 2000; Doyle, Dolan, & McGovern, 2002; Dolan & Davies, 2006). Internationally, the PCL scales are considered 'state of the art' instruments in the assessment of psychopathy. Recently, however, arguments have been brought forward as to limitations in relation to the conceptualization of the disorder as exemplified by the PCL scales. One of the main critiques has focused on the emphasis of antisocial behaviors encompassed in the PCL scales. It is suggested that antisocial and criminal behavior rather should be regarded as a secondary symptom or consequence of psychopathy and not an actual symptom (Cooke, Michie, Hart, & Clark, 2004b; Cooke, Michie, & Hart, 2006). Further, it is proposed to reconceptualize the construct of psychopathy by eliminating diagnostic criteria related to antisocial behavior, for example (Cooke & Michie, 2001). Cooke et al. (2004b) have argued that "The PCL-R may be regarded as having caused construct drift - drift from the traditional conceptualization of the disorder ... It may be time to correct course before running into the danger that the measure becomes the construct" (p. 350). Generally, a request for identification of the core components of psychopathy is evident in the literature (Lvnam & Widiger, 2007).

Recently, the Comprehensive Assessment of Psychopathic Personality (CAPP; Cooke, Hart, Logan, & Michie, 2004a) has been developed and is currently being investigated as an instrument for assessing symptoms of psychopathic personality disorder. The instrument is aimed at encompassing the full domain of psychopathic personality disorder and is intended for a variety of settings. Furthermore, the instrument is optimized in order to detect (if possible) changes in severity of symptoms over time.

The aim of the present study was twofold. Firstly to investigate psychopathy as a risk factor for violent recidivism, primarily by examining how accurate the PCL:SV could predict violent recidivism in a Danish forensic psychiatric population. No investigation of the PCL:SV has previously

been carried out in Denmark, which is why this study will contribute to the international validation of this widely used instrument. Secondly, in order to avoid mono-operation bias as well as aiming to include a more comprehensive assessment of psychopathy the newly developed instrument CAPP was compared to the standardized PCL:SV.

## METHODS

## Overview

This paper analyses data collected as part of larger study concerning violence risk. All data are collected at the forensic psychiatric unit of the Mental Health Centre Sct. Hans in Denmark. The unit is an 80-bed treatment institution with Copenhagen as its catchment area. Security levels include high security, medium security and low security. The vast majority of the patients are admitted under psychiatric orders imposed by the courts on offenders who have committed a serious offense and are considered not punishable due to severe psychopathology.

In the study, psychopathy was assessed using the Screening Version of the Hare Psychopathy Checklist-Revised (PCL:SV; Hart et al., 1995) and the Comprehensive Assessment of Psychopathic Personality (CAPP; Cooke et al., 2004). Data on violence risk, assessed by the HCR-20 (Webster, Douglas, Eaves, & Hart, 1997), are presented elsewhere (Pedersen, Rasmussen, & Elsass, 2010). The study was reviewed by the Regional Research Ethics Committee of the county of Copenhagen and approved by the National Board of Health.

#### Sample

The study sample was the entire population of patients discharged from the forensic psychiatric unit during the years 2001 and 2002, a total of 148 patients (142 males and 6 females). A number of patients were rehospitalized and discharged more than once during the study period. These patients' data were entered into the data collection with their first discharge only. Forty-one of the patients were excluded: 19 patients (16 males and 3 females) had died and therefore data from the National Crime Register could not be retrieved, eight patients could not be scored due to missing files, and 11 patients were not forensic patients. The remaining three females were considered too few for analysis and subsequently also excluded. Finally, file information for 11 patients did not allow for scoring the PCL:SV and the CAPP, leaving a total of 96 males with complete data sets.

Mean age of the 96 male patients was 36 years (SD 9.1, range 19–62). Thirty-eight percent were of non-Danish ethnicity and a majority had either no education or completed compulsorily schooling only (77%). Fifty-two percent of the patients had one psychiatric diagnosis, 44% had two and 4% had three. Seventy-five percent were diagnosed with

schizophrenia, 9% had affective disorders, 20% personality disorders, and 4% had other diagnoses. Furthermore, 44% had a diagnosis of substance use disorder. Most patients (90%) had previously received inpatient psychiatric treatment and 88% had been imprisoned.

Patients were discharged to a variety of settings. Forty percent were discharged to another psychiatric hospital unit (28%) or a prison ward (12%). Forty-four percent were discharged to a variety of noninstitutionalized destinations (nursing home/drop-in center = 16%, own home = 22%, the street = 6%). Furthermore, 9% had absconded and 3% were deported out of the country. Information on discharge destination was missing for five patients (5%).

Mean admission time for the index hospitalization was 439 days (range 1–4,526). All patients had at least one conviction, and the vast majority had a previous violent conviction (95%). The patients had on average been sentenced nine times (range 1–43). Most of the patients had committed more than one type of crime. On average, the patients had committed crimes from five different categories (range 1–10; see procedure for classification of crime categories). Of the 96 patients, 75% have been hospitalized during follow-up and 53% have been imprisoned during follow-up.

#### Procedure

The first author collected demographic and clinical data and made PCL:SV and CAPP ratings based on hospital files as on the day of discharge. The files included forensic psychiatric evaluations; court records; and records of clinical observations and evaluations from psychiatrists, psychologists, nurses, and social workers. To evaluate interrater reliability, a trained rater reviewed the file of every fifth patient and made PCL:SV and CAPP ratings.

The follow-up period ran from discharge in 2001/2002 until July 2007. The mean follow-up time was 5.7 years (SD 0.55, range 4.6–6.5). Information regarding new crimes, admissions to psychiatric services, and deaths was subsequently extracted from the Danish National Crime Register (Det Centrale Kriminalregister, 2009), the Danish Psychiatric Central Research Register (Munk-Jørgensen & Mortensen, 1997) and the Civil Registration System (Pedersen, Gøtzsche, Møller, & Mortensen, 2006). From the crime register, all sentences and all types of crimes committed in every sentence are recorded. Charges awaiting sentencing were not included. From the psychiatric register, only full-time psychiatric hospitalisztions were included.

*PCL:SV.* The Psychopathy Checklist: Screening Version (Hart et al., 1995) is a 12-item instrument designed to measure the construct of psychopathy. It has good reliability and validity and has been found conceptually and empirically related to the PCL-R (Cooke et al, 1999; Guy & Douglas, 2006). Each item is scored as 0 (not present), 1 (possibly present), or 2 (definitely present). The maximum score is 24 and the most commonly used score as indicative for psy-

TABLE 1 PCL:SV Scores for 96 Male Forensic Psychiatric Patients

Description (Max score)	М	(SD)
PCL:SV (24)	14.19	5.12
PART 1 (12)	6.45	2.75
Superficial	.68	.62
Grandiose	.68	.69
Deceitful	1.17	.71
Lacks Remorse	1.29	.60
Lacks Empathy	1.36	.56
Doesn't Accept Responsibility	1.27	.57
PART 2 (12)	7.74	2.77
Impulsive	1.45	.63
Poor Behavioural Controls	1.12	.68
Lacks Goals	1.50	.54
Irresponsible	1.41	.61
Adolescent Antisocial Behaviour	.69	.73
Adult Antisocial Behaviour	1.57	.58

chopathy is 18 and higher and a score of 13–17 is used as indicative for psychopathy in a lesser degree. The items can be grouped into two parts: part 1 (items 1–6) relating to interpersonal and affective characteristics, and part 2 (items 7–12) relating to antisocial and unstable lifestyle (see Table 1 for an overview). Each of the two parts may be furthermore split into two, producing four factors consistent with the factor structure of the PCL-R. The PCL:SV was scored using the original North American version.

*CAPP.* The Comprehensive Assessment of Psychopathic Personality (Cooke et al., 2004a) is an instrument designed to assess the full domain of psychopathic symptomatology. The CAPP is a recent measure of psychopathy and psychometric properties and international studies are still in their infancy in regards to this measure. However, a range of research projects is initiated as well as several international translations. For additional information, see www.gcu.ac.uk/capp/.

The CAPP is intended to be both comprehensive and dynamic (Cooke et al., 2004a). The comprehensive coverage makes the CAPP potential useful in a variety of settings, rather than being optimized for use in a single setting only. Furthermore, the CAPP is designed to assess severity of symptoms over discrete time periods, and possible changes in the severity of these symptoms over time.

The CAPP is a six-dimensional conceptual model of psychopathy. The six CAPP domains (i.e., Attachment, Behavioural, Cognitive, Dominance, Emotional, and Self) cover 33 symptoms of psychopathy (see Table 2 for an overview). Each symptom is scored on a scale from 0–6 (not present, very mild, mild, moderate, moderately severe, severe, and very severe). The maximum score is 198. For this study, all items were scored in a lifetime perspective (i.e., lifetime severity) and hence changes in the severity of symptoms over time were not investigated. The CAPP was scored using the Danish research-version (Kunz & Pedersen, 2006).

TABLE 2 CAPP Scores for 96 Male Forensic Psychiatric Patients

Description (Max score)	М	(SD)
CAPP (198)	78.72	31.30
ATTACHMENT DOMAIN (24)	11.00	4.76
Detached	2.46	1.49
Uncommitted	2.68	1.28
Unempathic	2.85	1.36
Uncaring	3.01	1.46
BEHAVIOURAL DOMAIN (36)	16.27	7.28
Lacks perseverance	2.61	1.32
Unreliable	3.12	1.34
Reckless	3.32	1.43
Restless	1.99	1.59
Disruptive	2.54	1.57
Aggressive	2.68	1.50
COGNITIVE DOMAIN (30)	11.55	4.63
Suspicious	2.20	1.29
Distractible	2.51	1.23
Intolerant	1.51	1.22
Inflexible	1.93	1.30
Lacks Planfulness	3.41	1.17
DOMINANCE DOMAIN (36)	11.92	6.70
Antagonistic	1.80	1.46
Domineering	1.64	1.35
Deceitful	2.84	1.23
Manipulative	2.15	1.51
Insincere	2.25	1.31
Garrulous	1.24	1.23
EMOTIONALITY DOMAIN (30)	14.31	4.48
Lacks anxiety	2.29	1.70
Lacks pleasure	2.09	1.31
Lacks emotional depth	3.57	1.29
Lacks emotional stability	2.91	1.42
Lacks remorse	3.45	1.41
SELF DOMAIN (42)	13.67	7.53
Self-centered	2.15	1.57
Self-aggrandizing	1.60	1.48
Sense of uniqueness	.96	1.21
Sense of entitlement	2.36	1.75
Sense of invulnerability	1.48	1.34
Self-justifying	3.18	1.28
Unstable self-concept	1.94	1.32

*Recidivism.* Recidivism was coded based on new convictions during the follow-up period. Based on the nature of the new convictions, recidivism was grouped into two categories; any violent crime or any nonviolent crime. Violent crimes included homicide, attempted homicide, aggravated assault and violence, violence, arson, other violence against the person, rape and attempted rape, other sexual offenses, and robbery. Nonviolent crimes included malicious damage to property, aggravated drug offenses under the penal code, burglary and theft, other misappropriations and offenses against property, culpable homicide or bodily harm by negligence, other sections of the Penal code, and other special offenses (e.g., violations of the Euphoriants Act, Arms Act, and Road Traffic Act).

#### Statistical Analyses

The major goal of the data analysis was to examine psychopathy as a risk factor for violent recidivism.

Interrater reliability checks were conducted by means of the Intraclass Correlation Coefficient (ICC; Shrout & Fleiss, 1979). Single rater ICC, or ICC<sub>1</sub>, using the two-way random effect model and absolute agreement type were calculated. According to recommendations of Fleiss (1986) ICC values above .75 represent excellent reliability, values between .40 and .75 represent fair to good reliability, while values below .40 represent poor reliability. Spearman Rank Correlation Coefficients were used to assess the associations between the dimensions of psychopathy (total scores and subscales). Cronbach's alpha identified the internal consistency of the two scales. Descriptive statistics described the sample, the psychopathy measures and rate of recidivism. Categorical data were analyzed with  $\chi^2$  test, while continuous data was compared with Mann-Whitney test for nonparametric data. Odds ratios were calculated to detect differences in recidivism between high-score psychopathy and low-score psychopathy. Predictive accuracy of the psychopathy measures was measured by the area under the curve (AUC) of the Receiver Operating Characteristic (ROC). A ROC curve is the plot of the true positive rate (hit rate = sensitivity) against the false positive rate (false alarm rate = 1 minus specificity) for the cut-off points of a measure (Mossman, 1994; Rice & Harris, 1995). The AUC value can be interpreted as the probability that a randomly selected recidivist has a higher score on a given risk assessment instrument than a randomly selected nonrecidivist. AUC values range from 0 to 1; an AUC of .50 represents chance-level prediction and an AUC of 1.0 perfect prediction. AUC values can be interpreted as moderate at the .70 range and large at the .75 range and above (Douglas, Guy, Reeves, & Weir, 2008).

Data were analyzed using statistical package SPSS 16.0 for Macintosh, with the exception that STATA 8.0 was used to investigate possible differences between AUC values according to the nonparametric method described by DeLong, DeLong, & Clarke-Pearson (1988).

## RESULTS

#### Interrater Reliability

Interrater reliability of the PCL:SV was excellent: PCL:SV,  $ICC_1 = .82$ ; Part 1,  $ICC_1 = .80$  and Part 2,  $ICC_1 = .85$ . For the CAPP, interrater reliability ranged from fair/good to excellent: CAPP,  $ICC_1 = .56$ ; attachment domain,  $ICC_1 = .79$ ; behavioural domain,  $ICC_1 = .76$ ; cognitive domain,  $ICC_1 = .63$ ; dominance domain,  $ICC_1 = .44$ ; emotionality domain,  $ICC_1 = .73$ ; and self domain,  $ICC_1 = .51$ ).

#### **Psychopathy Measures**

The two scales were significantly correlated at .90 for total scores and subscale scores in the range of .54–.85. All correlations were statistically significant (p < .001). Cronbach's alpha was high for both scales, .89 for the PCL:SV and .96 for the CAPP.

On the PCL:SV, the patients reached a mean score on 14.19 (SD = 5.0; range 3–23). Sixty-three percent (n = 60) scored in the upper half of the PCL:SV (>12). PCL:SV item, part and facet scores are given in Table 1.

On the CAPP, the patients reached a mean score on 78.72 (SD = 31.3; range 19–160). Twenty-four percent (n = 23) scored in the upper half of the CAPP (> 99). See Table 2 for individual CAPP item and domain scores.

# Psychopathy and Criminal History

Patients scoring in the upper half on the PCL:SV had significant more prior sentences than patients scoring in the lower half (mean 11.9 vs. 4.7, z = -4.07, p < .001). Furthermore, they had committed significant more different types of crimes (mean 5.9 vs. 2.9, z = -5.55, p < .001).

The patients scoring in the upper half on the CAPP had significant more prior sentences than patients scoring in the lower half (13.1 vs. 7.9, z = -2.86, p = .004). In addition, they had committed significant more different types of crimes (6.7 vs. 4.1, z = -4.16, p < .001).

#### Psychopathy and Recidivism

A total of 67% (n = 64) of the sample was reconvicted during the 5-year follow-up. Thirty-nine percent (n = 37) were reconvicted for a violent crime.

Of the 60 patients scoring in the upper half (>12) on the PCL:SV, 78% (n = 47) were reconvicted and 53% (n = 32) were reconvicted for a violent crime.

Of the 23 patients scoring in the upper half (> 99) on the CAPP, 87% (n = 20) were reconvicted and 52% (n = 12) were reconvicted for a violent crime.

Furthermore, patients scoring above the 12-point cut-off on the PCL:SV had a four times increased risk of recidivism compared to patients scoring in the lower half (OR = 4.04, 95% CI = 1.65, 9.90). For exclusively violent recidivism, there was a sevenfold risk of reoffending for patients scoring above the 12-point cut-off compared to patients scoring below (OR = 7.09, 95% CI = 2.43, 20.07). For exclusively nonviolent recidivism, there was a threefold risk of reoffending for patients scoring above the 12-point cut-off compared to patients scoring below (OR = 3.16, 95% CI = 1.33, 7.51).

A similar analysis showed that patients scoring in the upper half on the CAPP (100–198 points) also had a four times higher risk of recidivism than patients scoring in the lower half (OR = 4.39, 95% CI = 1.20, 16.14). For exclusively violent recidivism, the risk was two times higher for patients scoring in the upper half compared to patients scoring in the

TABLE 3 Predictive Accuracy (AUC of the ROC curve) of PCL:SV and CAPP Among 96 Male Forensic Psychiatric Patients

	Violent crime		Non-violent crime	
	AUC	95%CI	AUC	95%CI
PCL:SV	.73***	(0.63-0.83)	.69**	(0.58-0.81)
PART 1	.71**	(0.60-0.81)	.68**	(0.57 - 0.79)
PART 2	.72***	(0.62 - 0.82)	.65*	(0.54-0.77)
CAPP	.70**	(0.59 - 0.80)	.71**	(0.62 - 0.84)
Attachment domain	.68**	(0.56 - 0.78)	.68*	(0.57 - 0.79)
Behavioural domain	.73***	(0.62-0.83)	.71**	(0.64–0.85)
Cognitive domain	.62	(0.51-0.73)	.68*	(0.56 - 0.80)
Dominance domain	.68**	(0.58 - 0.79)	.70**	(0.60-0.82)
Emotionality domain	.67**	(0.55 - 0.77)	.70**	(0.58 - 0.82)
Self domain	.60	(0.50-0.73)	.66**	(0.54–0.79)



\*\*p < .01.

\*\*\* p < .001.

lower half on the CAPP (OR = 2.1,95% CI = 0.81,5.40). For exclusively nonviolent recidivism, the risk was three times higher for patients scoring in the upper half compared to patients scoring in the lower half on the CAPP (OR = 2.8,95% CI = 0.94, 8.39).

The predictive accuracy of violent recidivism of the two psychopathy measures was moderate to large, with AUCs of .73 (PCL:SV total score) and .70 (CAPP total score). Similar results were found in relation to non-violent recidivism. Statistically significance was attained for most subscales in relation to both violent and nonviolent recidivism. See Table 3 for a presentation of all areas under the ROC curve (AUCs) of the psychopathy measures. No significant differences were found between the predictive accuracy of the PCL:SV and the CAPP for either violent recidivism ( $\chi^2 = 0.37$ , df = 1, p =0.54). Figure 1 illustrates all Receiver Operating Characteristic curves for violent recidivism for the PCL:SV, the CAPP and all subscales.

## DISCUSSION

The purpose of the present study was to investigate psychopathy as a risk factor for violent recidivism. Two measures were applied: one, which has been abundantly researched internationally, and one recent still awaiting documentation. To our knowledge, this is the first study concerning any of these instruments in Denmark.

The PCL:SV mean scores in this study were comparable to mean scores reported from several forensic psychiatric populations (Doyle et al., 2002; Douglas, Strand, Belfrage, Fransson, & Levander, 2005; Dolan & Davies, 2006; Urbaniok, Endrass, Rossegger, & noll, 2007). In line with



FIGURE 1 Receiver Operating Characteristic curves for violent recidivism for the PCL:SV, the CAPP and all subscales.

previous research (Doyle et al., 2002; Tengstrom, Hodgins, Grann, Langstrom, & Kullgren, 2004), high PCL:SV scores (13 or above) were related to a more severe criminal history in terms of frequency and versatility. Furthermore, patients with high PCL:SV score were more likely to reoffend.

As demonstrated in previous studies (Strand et al., 1999; Hare et al., 2000; Doyle et al., 2002; Dolan & Davies, 2006), the PCL:SV had good predictive validity for violent recidivism. Furthermore, both part 1 and part 2 had moderate predictive accuracy and no difference was found between the two subscales. This contradicts previous findings indicating that part 2 is more strongly related to antisocial and violent behavior than part 1 (Walters, 2003; Leistico, Salekin, DeCoster, & Rogers, 2008).

Overall, similar results were obtained for the PCL:SV and the CAPP. Comparing the two instruments, no differences were found in the predictive accuracy in relation to violent recidivism. This indicates that the CAPP measure with fewer antisocial behavioral traits is as good a predictor as the PCL:SV. However, the behavioral domain was identified as the strongest predictor and two of the CAPP domains (cognitive and self) did not individually exceed chance prediction of violent recidivism. For nonviolent recidivism, both psychopathy measures including all subscales were significant predictors. Differences were found in relation to interrater reliability. Excellent interrater reliability was obtained for the PCL:SV, whereas somewhat lower interrater reliability was obtained for the CAPP, ranging from excellent to poor. Compared to the PCL:SV the CAPP is much more comprehensive with a more extensive scoring system (7-point scale). Hence, larger differences between the raters should be expected.

The psychopathy checklist was not developed as a risk assessment instrument but as a measure of psychopathy. However, in previous research the PCL scales have consistently been strongly related to violence. Even though not supported by this study, a stronger link has especially been found with part 2 of the PCL:SV or factor 2 of the PCL-R and violence, in comparison to part 1/factor 1 and violence. Similarly to the consistent findings of the PCL scales, the behavioral domain of the CAPP was the strongest predictor of violent recidivism. Whether antisocial behavior should be a core feature of psychopathy is not the scope of this paper; however, in the scope of violence risk assessment it may be that the antisocial/behavioral dimensions of the psychopathy measures are especially important. In fact, it has been argued that excluding behavioral items provides a more pure assessment of psychopathy but at the same time significantly reduces the measures' ability to predict violence (Skeem, Mulvey, & Grisso, 2003; Salekin, Brannen, Zalot, Leistico, & Neumann, 2006).

There are certain limitations to this study. Primarily the retrospective design may have affected the rating of the measures. However, patients with incomplete file material were excluded from the study. Consequently, the included patients were all judged to have sufficient information. Furthermore, interrater reliability was excellent for the PCL:SV and acceptable for the CAPP. In view of the fact that the PCL scales have been the standard measure of psychopathy for years it may be that information regarding the PCL:SV items is more apparent in the file material and for that reason favored in regards to ratings based on file material only. Also, as recidivism was recorded as a new criminal conviction only, some underreporting must be expected seeing that the majority of criminal behavior most likely is not processed in the criminal justice system.

In summary, the aim of this study was to investigate psychopathy as a risk factor for violent recidivism. Both the highly explored PCL:SV and a measure in its infancy, the CAPP, were related to a more severe and versatile criminal career as well as violent recidivism. No significant difference was found in terms of predictability of violent recidivism between the two measures. PCL scales are well implemented in clinical settings around the world as the standard for assessing psychopathy, and maybe even synonymous with psychopathy (Skeem et al., 2003); however, there may be some limitations to the PCL scales as clinical tools. The CAPP could be a promising clinical tool in light of its comprehensiveness, focus on detecting possible changes in symptoms, and inclusion of a larger range of clinically relevant aspects of psychopathy. Its validity needs to be further explored, but at least its ability to predict violence similar to the PCL scales is supported by the present data.

# REFERENCES

- Cleckley, H. (1941). The mask of sanity: an attempt to reinterpret the socalled psychopathic personality. Mosby St. Louis, MO.
- Cooke, D. J., Hart, S. D., Logan, C., & Michie, C. (2004a). Comprehensive Assessment of Psychopathic Personality – Institutional Rating Scale (CAPP-IRS). Unpublished manuscript.
- Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: Towards a hierarchical model. *Psychological Assessment*, 13, 171– 188.
- Cooke, D. J., Michie, C., & Hart, S. D. (2006). Facets of clinical psychopathy: Toward clearer measurement. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 91–106). New York, NY: The Guilford Press.
- Cooke, D. J., Michie, C., Hart, S. D., & Clark, D. A. (2004b). Reconstructing psychopathy: Clarifying the significance of antisocial and socially deviant behavior in the diagnosis of psychopathic personality disorder. *Journal* of Personality Disorders, 18, 337–357.
- Cooke, D. J., Michie, C., Hart, S. D., & Hare, R. D. (1999). Evaluating the screening version of the hare psychopathy checklist – Revised (PCL : SV): An item response theory analysis. *Psychological Assessment*, 11, 3–13.
- DeLong, E. R., DeLong, D. M., & Clarke-Pearson, D. L. (1988). Comparing the areas under two or more correlated receiver operating characteristic curves: A nonparametric approach. *Biometrics*, 44, 837–845.
- Det Centrale Kriminalregister. (2009). Det Centrale Kriminalregister [The National Crime Register]. Available at http://www.politi.dk/da/ borgerservice/straffeattest/kriminalregisteret/ [Accessed 15 May 2009].
- Dolan, M., & Davies, G. (2006). Psychopathy and institutional outcome in patients with schizophrenia in forensic settings in the UK. *Schizophrenia Research*, 81, 277–281.
- Douglas, K. S., Guy, L. S., Reeves, K. A., & Weir, J. M. (2008). HCR-20 Violence Risk Assessment Scheme: Overview and Annotated Bibliography.

Available from http://kdouglas.files.wordpress.com/2006/04/annotate10-24nov2008.pdf [Accessed 15 May 2009].

- Douglas, K. S., Strand, S., Belfrage, H., Fransson, G., & Levander, S. (2005). Reliability and validity evaluation of the Psychopathy Checklist: Screening Version (PCL:SV) in Swedish correctional and forensic psychiatric samples. Assessment, 12, 145–161.
- Doyle, M., Dolan, M., & McGovern, J. (2002). The validity of North American risk assessment tools in predicting in-patient violent behaviour in England. *Legal and Criminological Psychology*, 7, 141–154.
- Fleiss, J. L. (1986). *The design and analysis of clinical experiments*. New York: John Wiley & Sons.
- Guy, L. S., & Douglas, K.S. (2006). Examining the utility of the PCL:SV as a screening measure using competing factor models of psychopathy. *Psychological Assessment*, 18, 225–230.
- Hare, R. D. (1991). The Hare Psychopathy Checklist Revised. Toronto: Multi-Health Systems.
- Hare, R. D. (1999). Psychopathy as a risk factor for violence. *Psychiatric Quarterly*, 70, 181–197.
- Hare, R. D. (2003). The Hare Psychopathy Checklist Revised (2nd ed) (2nd ed.). Toronto: Multi-Health Systems.
- Hare, R. D., Clark, D., Grann, M., & Thornton, D. (2000). Psychopathy and the predictive validity of the PCL-R: an international perspective. *Behavioral Sciences and the Law*, 18, 623–645.
- Hart, S. D. (1998). The role of psychopathy in assessing risk for violence: Conceptual and methodological issues. *Legal and Criminological Psychology*, 3, 121–138.
- Hart, S. D., Cox, D. N., & Hare, R. D. (1995). The Hare Psychopathy Checklist: Screening Version. Toronto: Multi-Health Systems.
- Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: A review. *Legal and Criminological Psychology*, 3, 139–170.
- Kunz, C., & Pedersen, L. (2006). CAPP Vurdering af psykopatisk personlighed (C. Kunz, & L. Pedersen, Trans.). (Translated after the original version 'Comprehensive Assessment of Psychopathic Personality – Institutional Rating Scale' by Cooke, DJ, Hart, SD, Logan, C, & Michie, C). Unpublished manuscript.
- Leistico, A.M.R., Salekin, R. T., DeCoster, J., & Rogers, R. (2008). A large-scale meta-analysis relating the hare measures of psychopathy to antisocial conduct. *Law and Human Behavior*, 32, 28–45.
- Lynam, D. R., & Widiger, T. A. (2007). Using a general model of personality to identify the basic elements of psychopathy. *Journal of Personality Disorders*, 21, 160–178.
- Mossman, D. (1994). Assessing predictions of violence: being accurate about accuracy. *Journal of Consulting and Clinical Psychology*, 62, 783– 792.
- Munk-Jørgensen, P., & Mortensen, P. B. (1997). The Danish Psychiatric Central Register. *Danish Medical Bulletin*, 44, 82–84.
- Pedersen, C. B., Gøtzsche, H., Møller, J., & Mortensen, P. B. (2006). The Danish civil registration system. *Danish Medical Bulletin*, 53, 441–449.
- Pedersen, L., Rasmussen, K., & Elsass, P. (2010). Risk assessment: The value of structured professional judgments. *International Journal of Forensic Mental Health*, 9, 74–81.
- Porter, S., & Porter, S. (2007). Psychopathy and violent crime. In H. Hervé, & J. C. Yuille (Eds.), *The psychopath: Theory, research, and practice* (pp. 287–300). Mahwah, NJ: Lawrence Erlbaum Associates.
- Rice, M. E., & Harris, G. T. (1995). Violent recidivism: assessing predictive validity. *Journal of Consulting and Clinical Psychology*, 63, 737–748.
- Salekin, R. T., Brannen, D. N., Zalot, A. A., Leistico, A. M., & Neumann, C. S. (2006). Factor structure of psychopathy in youth – Testing the applicability of the new four-factor model. *Criminal Justice and Behavior*, 33, 135–157.
- Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: uses in assessing rater reliability. *Psychological Bulletin*, 86, 420–428.
- Skeem, J. L., Mulvey, E. P., & Grisso, T. (2003). Applicability of traditional and revised models of psychopathy to the psychopathy checklist: Screening version. *Psychological Assessment*, 15, 41–55.

- Strand, S., Belfrage, H., Fransson, G., & Levander, S. (1999). Clinical and risk management factors in risk prediction of mentally disordered offenders—more important than historical data? A retrospective study of 40 mentally disordered offenders assessed with the HCR-20 violence risk assessment scheme. *Legal and Criminological Psychology*, 4, 67–76.
- Tengstrom, A., Hodgins, S., Grann, M., Langstrom, N., & Kullgren, G. (2004). Schizophrenia and criminal offending – The role of psychopathy and substance use disorders. *Criminal Justice and Behavior*, 31, 367– 391.
- Urbaniok, F., Endrass, J., Rossegger, A., & Noll, T. (2007). Violent and sexual offences: a validation of the predictive quality of the PCL:SV in Switzerland. *International Journal of Law and Psychiatry*, 30, 147–152.
- Walters, G. D. (2003). Predicting institutional adjustment and recidivism with the psychopathy checklist factor scores: a meta-analysis. *Law and Human Behavior*, 27, 541–558.
- Webster, C. D., Douglas, K. S., Eaves, D., & Hart, S. D. (1997). HCR-20 – Assessing risk for violence (2 ed.). Mental Health, Law, and Policy Institute, Simon Fraser University, Vancouver, Canada.